

CLAIMS

We claim:

1. A gas engine supply apparatus, comprising:
 - a) a first reservoir, defining an enclosure suited for containing gas, and having an input port adapted to connect to a supply of gas, and an output port;
 - b) a second reservoir, defining an enclosure suited for containing gas, and having an input port in communication with the output port of the first reservoir, and an output port;
 - c) an exhaust channel, adapted to receive exhaust from a gas engine and mounted with the first and second reservoirs such that the exhaust channel is in thermal communication with the first and second reservoirs.
2. An apparatus as in Claim 1, wherein the exhaust channel comprises:
 - a) a first port adapted to receive exhaust from a natural gas engine;
 - b) a second port adapted to allow exhaust to exit the exhaust channel; and
 - c) a path from the first port to the second port, where exhaust along a portion of the path is in thermal communication with the first and second reservoirs.
3. An apparatus as in Claim 2, wherein the exhaust channel along the portion of the path is in physical contact with the first and second reservoirs.
4. An apparatus as in Claim 2, wherein the first port comprises a flexible hose adapted to mount with and receive exhaust from an exhaust outlet of a gas engine.
5. An apparatus as in Claim 1, wherein the first reservoir comprises a cylinder.
6. An apparatus as in Claim 1, wherein the input port of the first reservoir comprises a pressure regulator adapted to connect to a supply of gas at an unregulated input port and connected to the first reservoir at a regulated output port.
7. An apparatus as in Claim 1, wherein the output port of the first reservoir comprises a pressure regulator adapted to connect to the first reservoir at an unregulated input port and connected to the second reservoir at a regulated output port.
8. An apparatus as in Claim 1, wherein the second reservoir comprises a cylinder.
9. An apparatus as in Claim 1, wherein the output port of the second reservoir is adapted to connect with a gas input port of a gas engine.
10. An apparatus as in Claim 1, wherein the first reservoir further comprises a drain device, capable of a first state wherein the drain device is substantially sealed, and a second state wherein the drain device allows material from the first reservoir the exit therefrom.

11. An apparatus as in Claim 1, wherein the second reservoir further comprises a drain device, capable of a first state wherein the drain device is substantially sealed, and a second state wherein the drain device allows material from the second reservoir the exit therefrom.
- 5 12. An apparatus as in Claim 1, wherein:
- a) the first reservoir comprises a first cylinder;
 - b) the second reservoir comprises a second cylinder;
 - c) the exhaust channel comprises a cylinder in physical contact with the first and second cylinders.
- 10 13. An apparatus as in Claim 1, wherein:
- a) the first reservoir comprises a first cylinder;
 - b) the second reservoir comprises a second cylinder;
 - c) the exhaust channel comprises a surface, mounted with the first and second cylinders such that the first cylinder, second cylinder, and surface together define a
- 15 path.
14. An apparatus as in Claim 1, wherein:
- a) the first reservoir comprises a first cylinder;
 - b) the input port of the first reservoir comprises a pressure regulator adapted to connect to a supply of gas at an unregulated input port and connected to the first reservoir at
- 20 a regulated output port;
- c) the first reservoir further comprises a first drain device, capable of a first state wherein the first drain device is substantially sealed, and a second state wherein the first drain device allows material from the first reservoir the exit therefrom;
 - d) the second reservoir comprises a second cylinder;
- 25 e) the second reservoir further comprises a second drain device, capable of a first state wherein the second drain device is substantially sealed, and a second state wherein the second drain device allows material from the second reservoir the exit therefrom;
- f) the output port of the first reservoir comprises a pressure regulator adapted to connect to the first reservoir at an unregulated input port and connected to the
- 30 second reservoir at a regulated output port;
- g) the output port of the second reservoir is adapted to connect with a gas input of a gas engine; and
 - h) the exhaust channel along the portion of the path is in physical contact with the first and second cylinders.

15. A gas engine system, comprising:
- a) a first reservoir, defining an enclosure suited for containing gas, and having an input port adapted to connect to a supply of gas, and an output port;
 - 5 b) a second reservoir, defining an enclosure suited for containing gas, and having an input port in communication with the output port of the first reservoir, and an output port;
 - c) a gas engine, having an input port in communication with the output port of the second reservoir, and an exhaust port;
 - 10 d) an exhaust channel, in thermal communication with the first and second reservoirs and in fluid communication with the exhaust port of the gas engine.
16. A method of operating a gas engine, comprising:
- a) supplying gas to a first reservoir,
 - b) supplying gas from the first reservoir to second reservoir;
 - c) supplying gas from the second reservoir to the gas engine;
 - 15 d) supplying exhaust from gas engine to an exhaust channel in thermal communication with the first and second reservoirs.
17. An apparatus for supply of gas to a gas engine, comprising:
- a) First and second reservoirs, each comprising:
 - i) A cylinder;
 - 20 ii) First and second caps, sealingly mounted with first and second ends of the cylinder;
 - iii) A drain device mounted with the second end of the cylinder;
 - iv) A gas input port mounted with the cylinder at a distance from the second end of the cylinder and allowing fluid communication through the gas input port with the interior volume of the cylinder;
 - 25 v) A gas output port mounted with the cylinder at a distance from the second end of the cylinder and allowing fluid communication through the gas output port with the interior volume of the cylinder;
 - b) A pressure regulator mounted with the first and second reservoirs in fluid communication with the gas output port of the first reservoir and the gas input port of the second reservoir;
 - 30 c) An exhaust channel, comprising a cylinder mounted in physical contact with the first and second reservoirs, and defining an exhaust input port adapted to connect with a gas exhaust of a gas engine, and defining an exhaust output port adapted to allow

fluid communication through the exhaust output port with the interior volume of the exhaust channel.

18. An apparatus as in Claim 17, wherein each reservoir cylinder is approximately 4 inches in diameter by approximately 36 inches in length, and wherein the first and second
5 reservoirs are welded to the exhaust channel.
19. A gas engine supply apparatus, comprising:
- a) first reservoir means for storing gas;
 - b) second reservoir means for storing gas;
 - c) means for accepting gas from a supply into the first reservoir means;
 - 10 d) means for communicating gas from the first reservoir means to the second reservoir means in a pressure-regulated manner;
 - e) means for communicating gas from the second reservoir means to a gas input of a gas engine;
 - f) means for communicating thermal energy from exhaust of a gas engine to gas in the
15 first and second reservoir means.
20. A gas engine supply apparatus, comprising:
- a) a reservoir, defining an enclosure suited for containing gas, and having an input port adapted to connect to a supply of gas, and an output port adapted to connect to a gas input of a gas engine;
 - 20 b) an exhaust channel, adapted to receive exhaust from a gas engine and mounted with the reservoir such that the exhaust channel is in thermal communication with the reservoir.